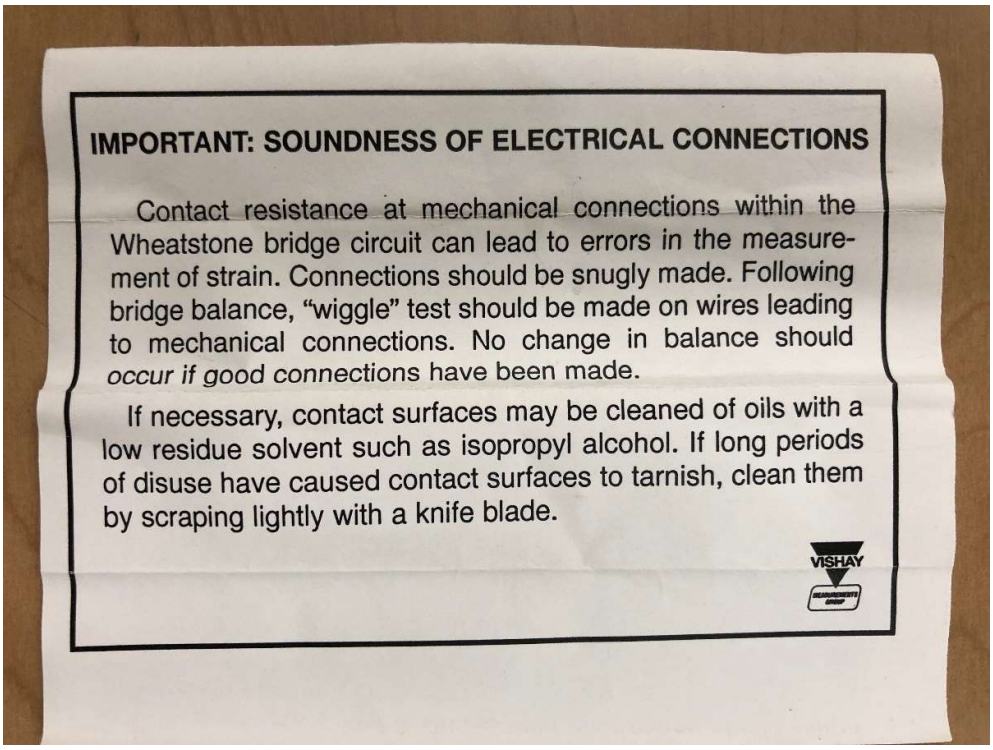
Sample Setup Pictures


Figure 1: Clamping beam to wooden surface using small metal block on underside of tabletop.


Figure 2: Optional flexure fixture to use when connecting the wires from the strain gages on the beam to the Indicator and Recorder Box, P3. This fixture has a “pigtail” of wires that you can use as “extenders” to get from beam to box.



**IMPORTANT: SOUNDNESS OF ELECTRICAL CONNECTIONS**

Contact resistance at mechanical connections within the Wheatstone bridge circuit can lead to errors in the measurement of strain. Connections should be snugly made. Following bridge balance, "wiggle" test should be made on wires leading to mechanical connections. No change in balance should occur if good connections have been made.

If necessary, contact surfaces may be cleaned of oils with a low residue solvent such as isopropyl alcohol. If long periods of disuse have caused contact surfaces to tarnish, clean them by scraping lightly with a knife blade.

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Figure 3: Manufacturer provided guidance regarding electrical connections.

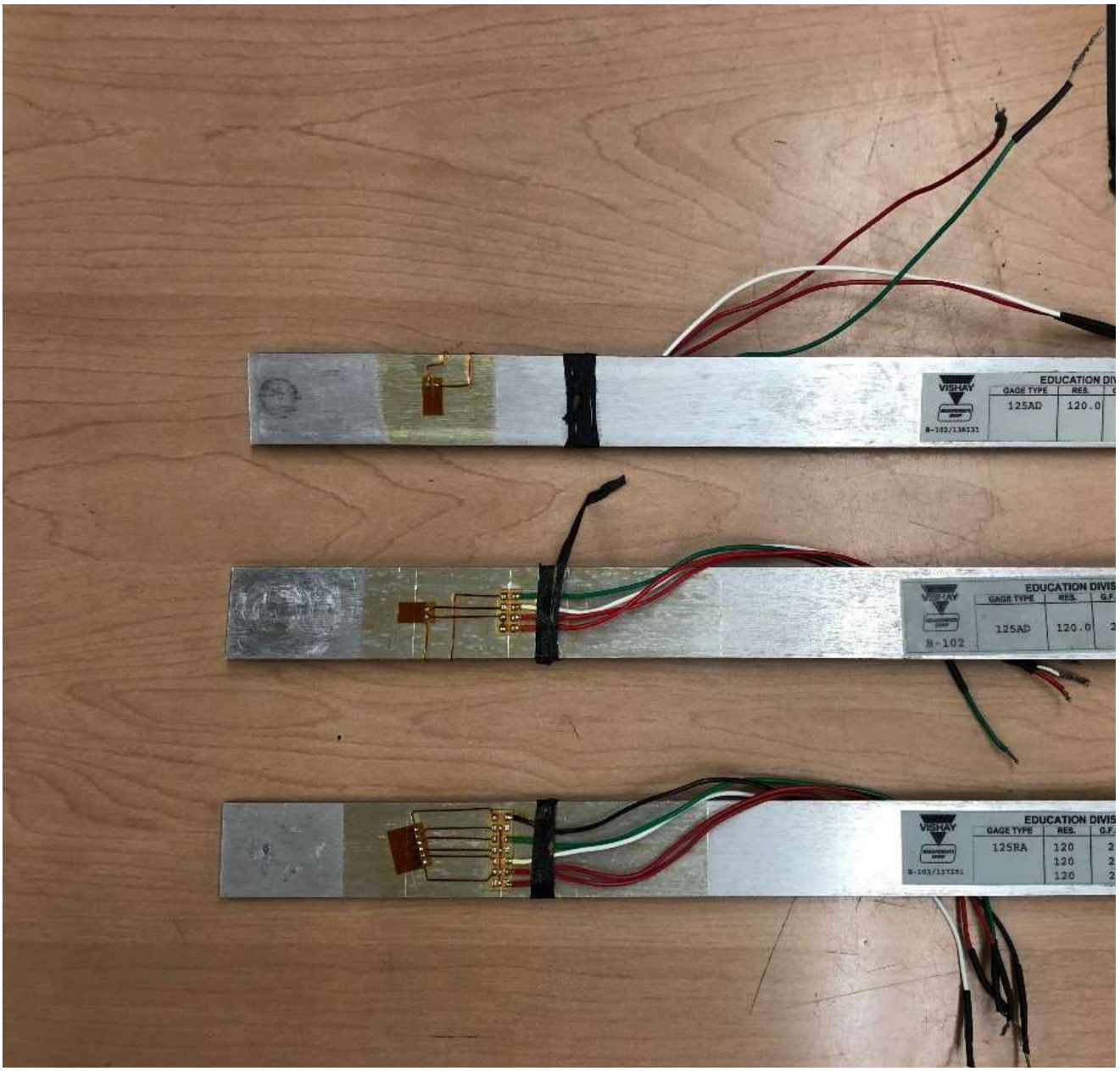



Figure 4: Upper two beams are Model B-102, beam with axial and transverse gages, one on “top” of beam and the other on “bottom” of beam, the long direction of the gage indicates alignment.

The lower beam is Model B-103, beam with 3-gage rosette, on one side of beam only.

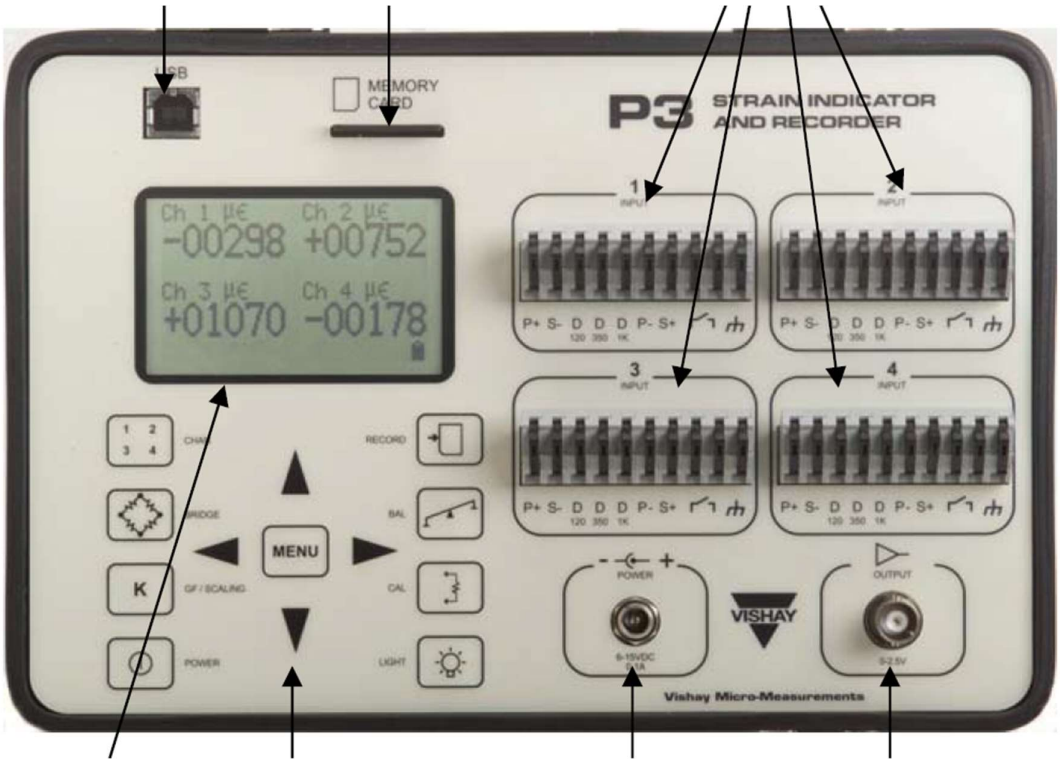


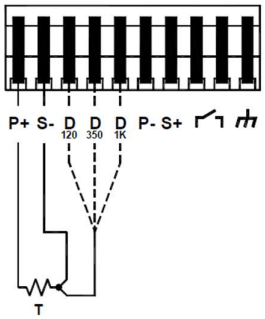

Figure 5. Main panel of the P3 indicator and recorder box

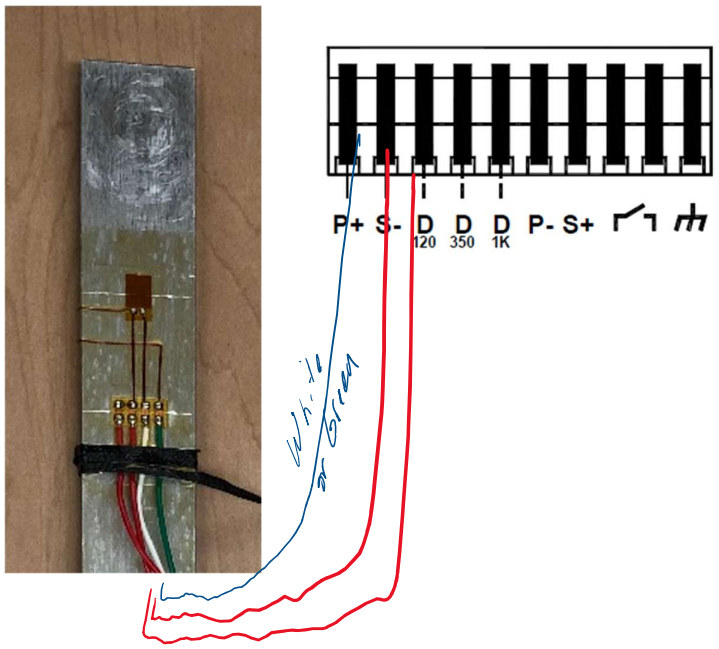
Connecting and Using the P3 – an outline of steps

- You will be using only Channel 1 to wire up gages one at a time.
- Follow the steps outlined in the P3 User Manual, see sections listed below and read full details in the manual.
- To attach a wire to the input connector, simply lift the eccentric lever, insert the wire into the terminal opening, and lower the eccentric lever. Do not use excessive force when rotating these little levers, no need to risk breaking the mechanism.

### 4.3.1 Quarter Bridge Connections

The following configuration illustrates the connections for making a three-wire quarter bridge connection:






P+ Connection for B-102

White Wire is the axial gage on top surface of beam

Green Wire is transverse gage on lower surface of beam

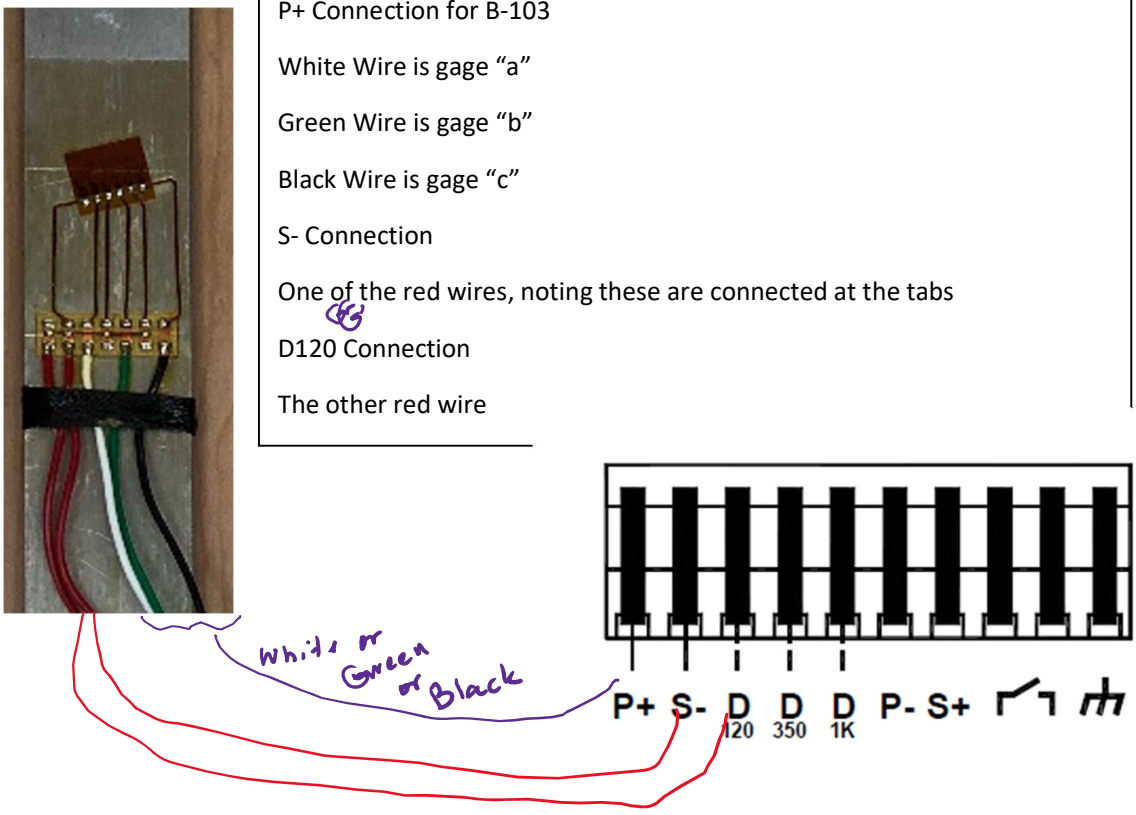
S- Connection

One of the red wires, noting these are connected at the tabs

D120 Connection

The other red wire

Figure 6. Wiring for B-102




P+ Connection for B-103

White Wire is gage “a”

Green Wire is gage “b”

Black Wire is gage “c”

S- Connection

One of the red wires, noting these are connected at the tabs

D120 Connection

The other red wire

Figure 7. Wiring for B-103

**The sections of the user manual listed below should be consulted for more images and guidance.**

### 4.5.2 Select Channels Menu

- Ensure Channel 1 is “Active” and all other channels are “Inactive”

### 4.5.3 Bridge Type Menu

- Ensure Channel 1 is set for ¼ bridge

### 4.5.4 Gage Factor/Scaling Menu

- Use the menu to set the gage factor for the gage attached to channel 1.
- You can find the gage factor written on the label on the beam

### 4.5.6 Balance Mode Menu

- Use the “auto” balance to ensure the channel 1 is operating and reads out “0” when no load is attached to the end of the beam. This is “zeroing” the reading output. It will ask do you want to record the setting, and you can indicate yes.

After you have completed the setup steps, you can now start increasing the load on the end of the beam.

Each time you change the gage attached, you will need to redo the steps above.